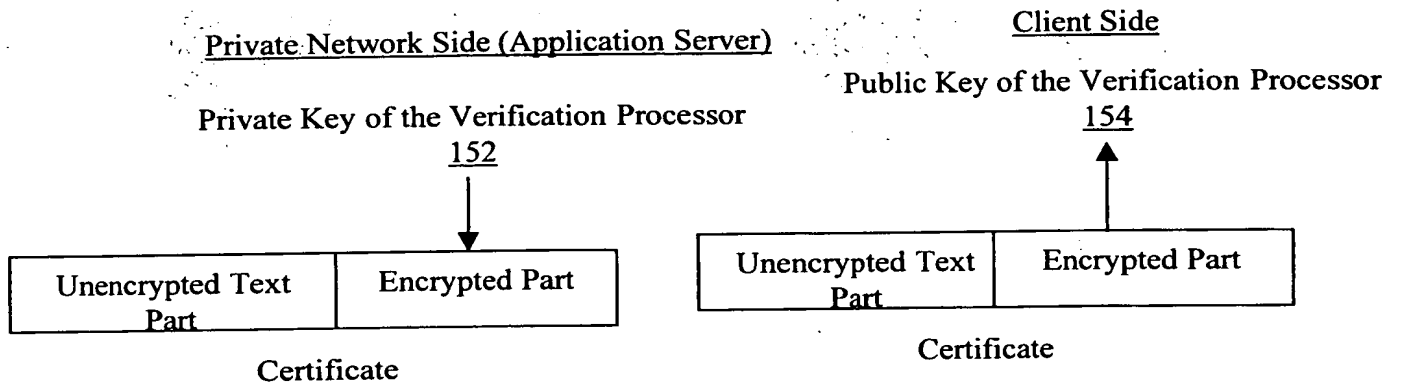


Fig. 1b

Keys Used for Authenticating the
Interface Server

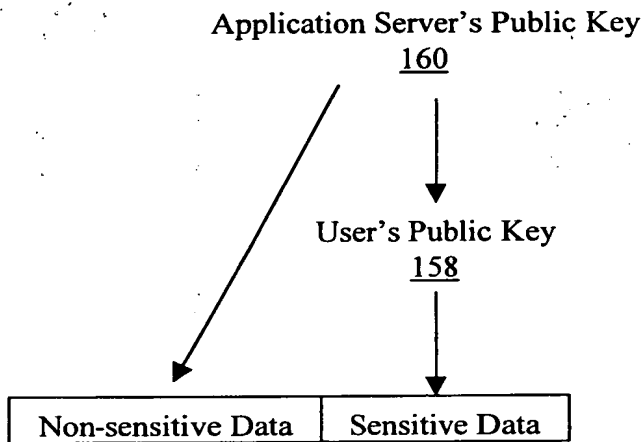


Key: ↓ = Encryption ↑ = Decryption

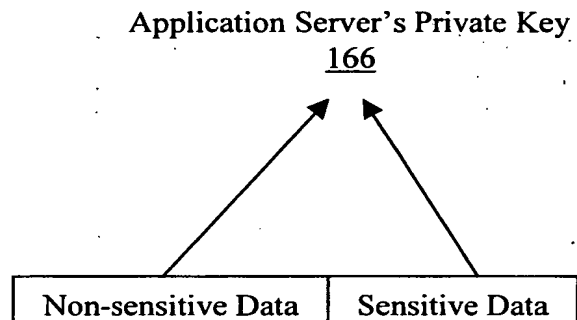
Fig. 1c

Keys Used in Transmitting, Receiving,
and Storing Data

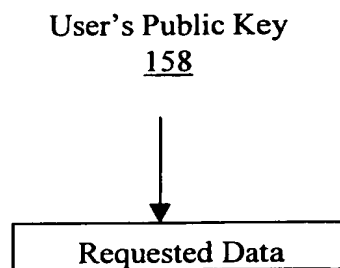
Client Transmitting Data
to a Private Network (Application Server)



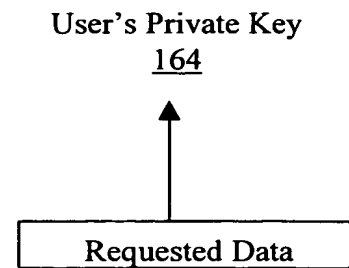
Private Network (Application Server)
Receiving and Storing Data



Private Network (Application Server)
Transmitting Data to Client



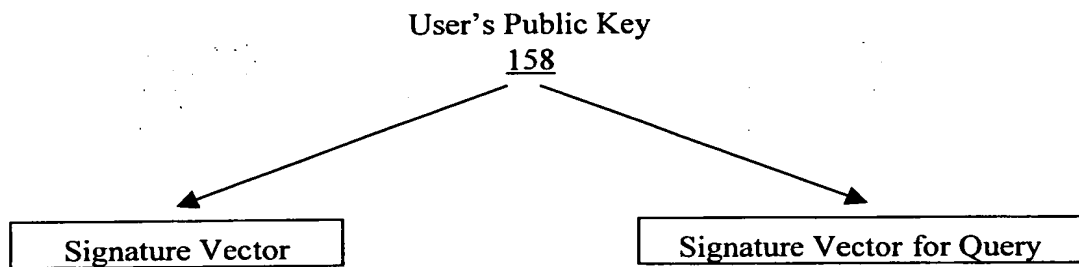
Client Receiving Data



Key: ↓ = Encryption ↑ = Decryption

Fig. 1d

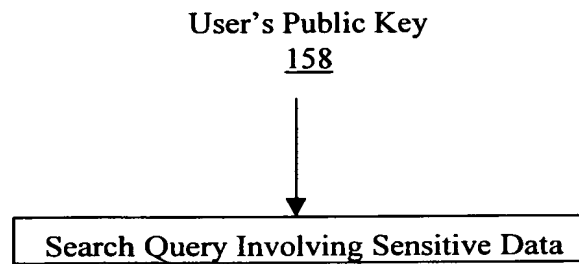
Keys Utilized in Fuzzy Searching



Key: ↓ = Encryption ↑ = Decryption

Fig. 1e

Keys Utilized in Relational Database Searching

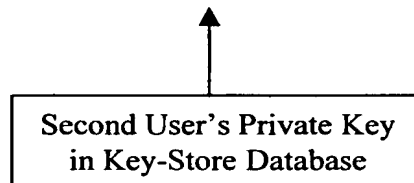


Key: ↓ = Encryption ↑ = Decryption

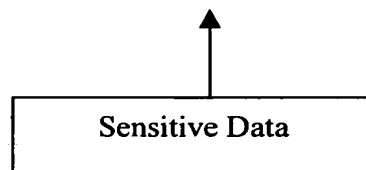
Fig. 1f

Keys Utilized in Accessing Sensitive Data

First User's Key-Store Master Key
168



Second User's Private Key
164



Key: ↓ = Encryption ↑ = Decryption

Fig. 1h

Steps for Communications between a Client and a Private Network

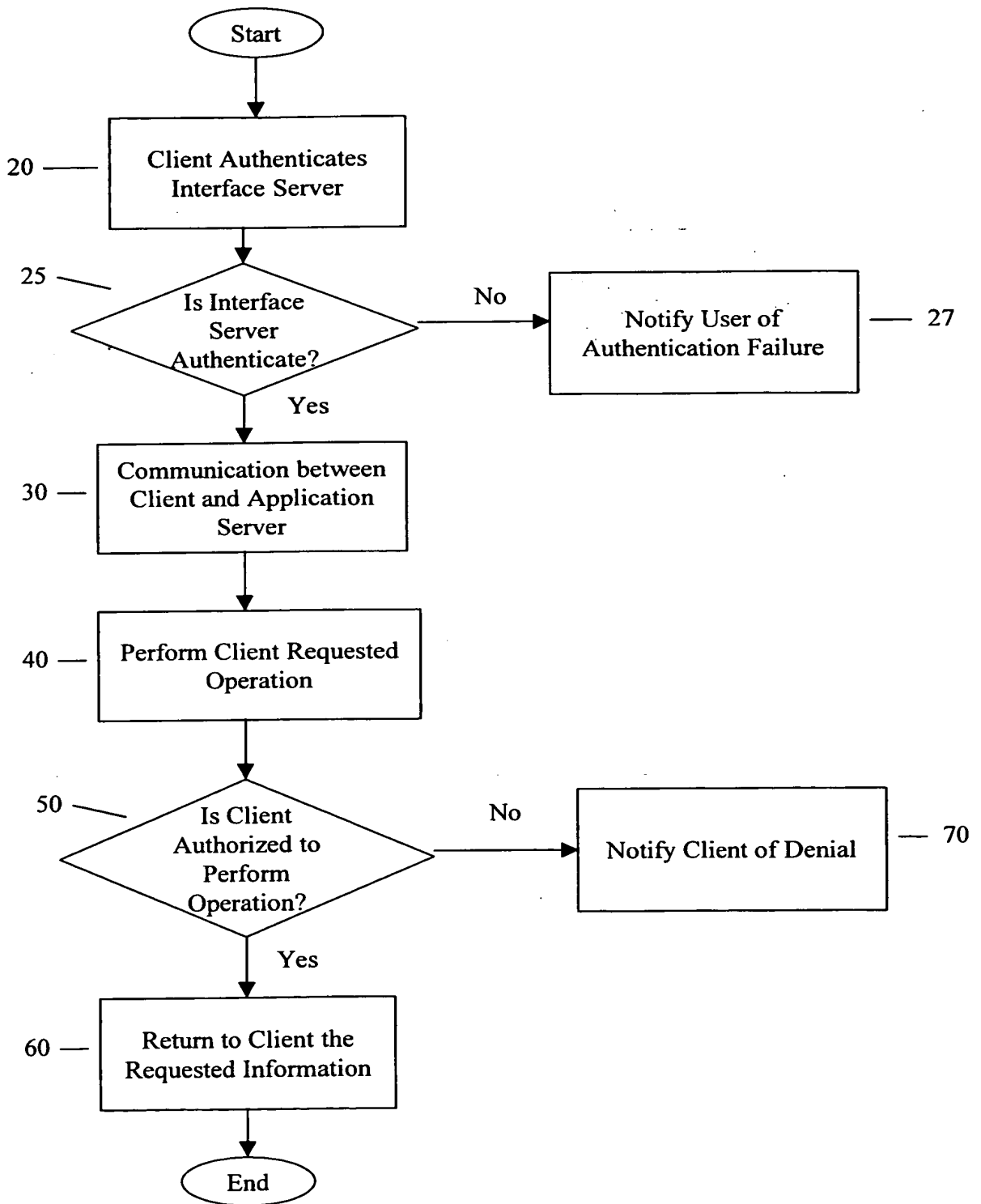


Fig. 2
Authentication

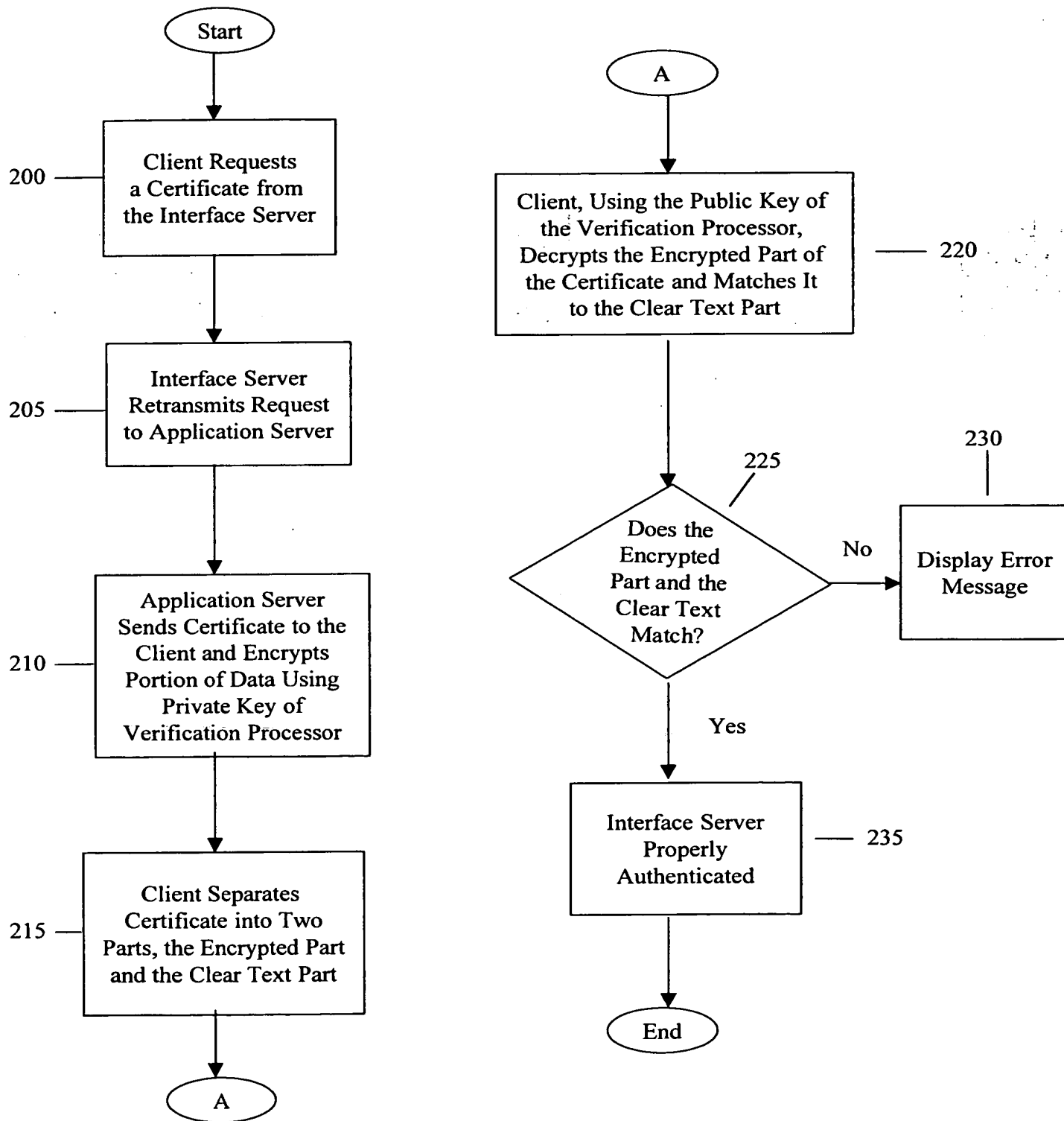


Fig. 3

Transmission and Storage of Data

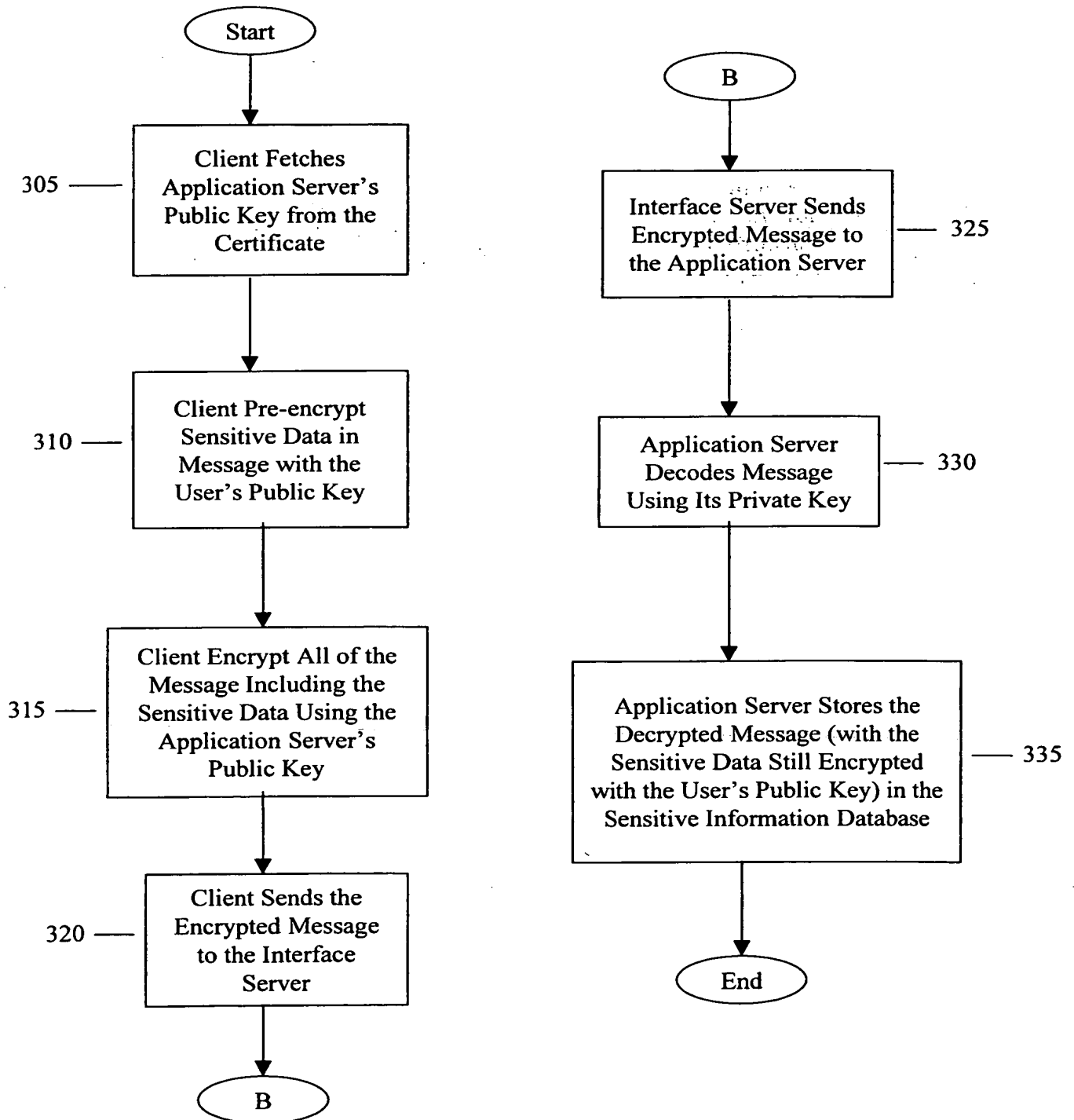


Fig. 4

Search Operation

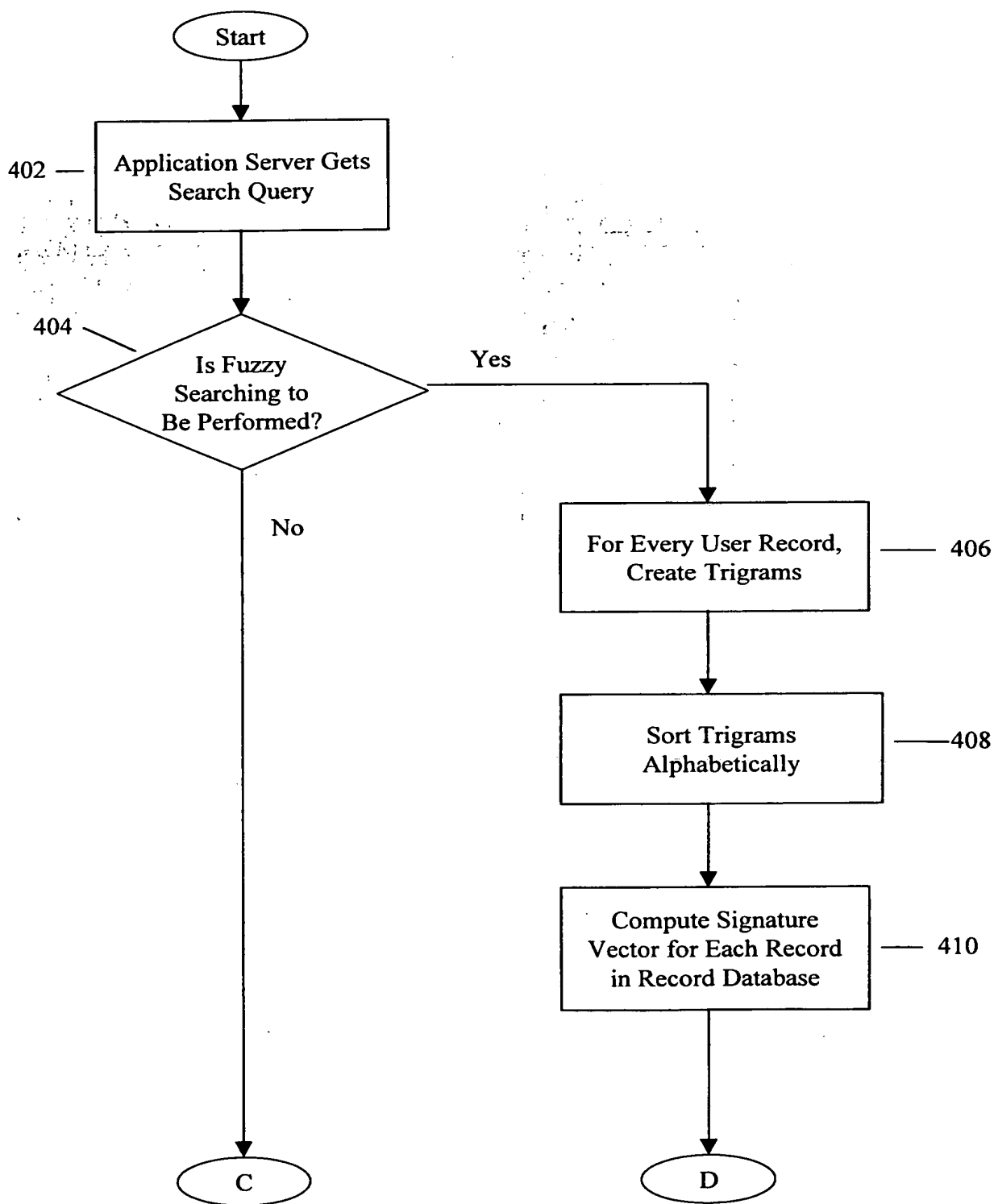


Fig. 4

Search Operation

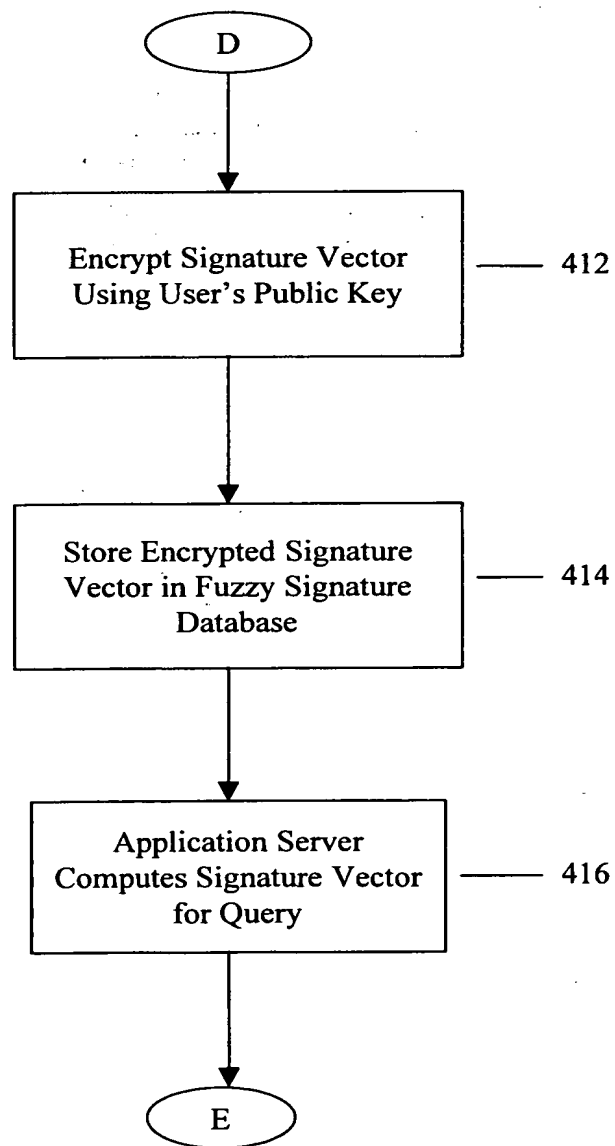


Fig. 4

Search Operation

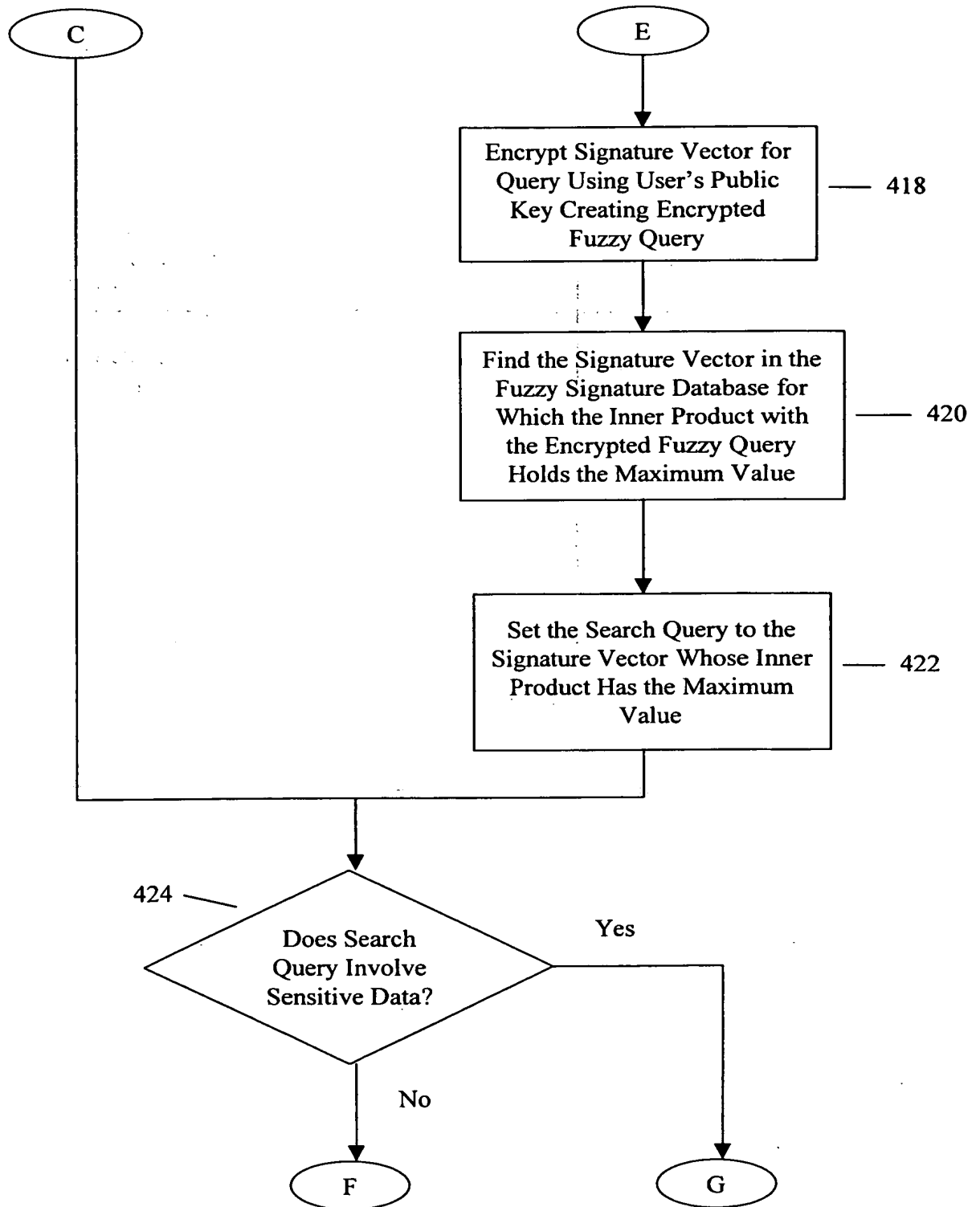


Fig. 4

Search Operation

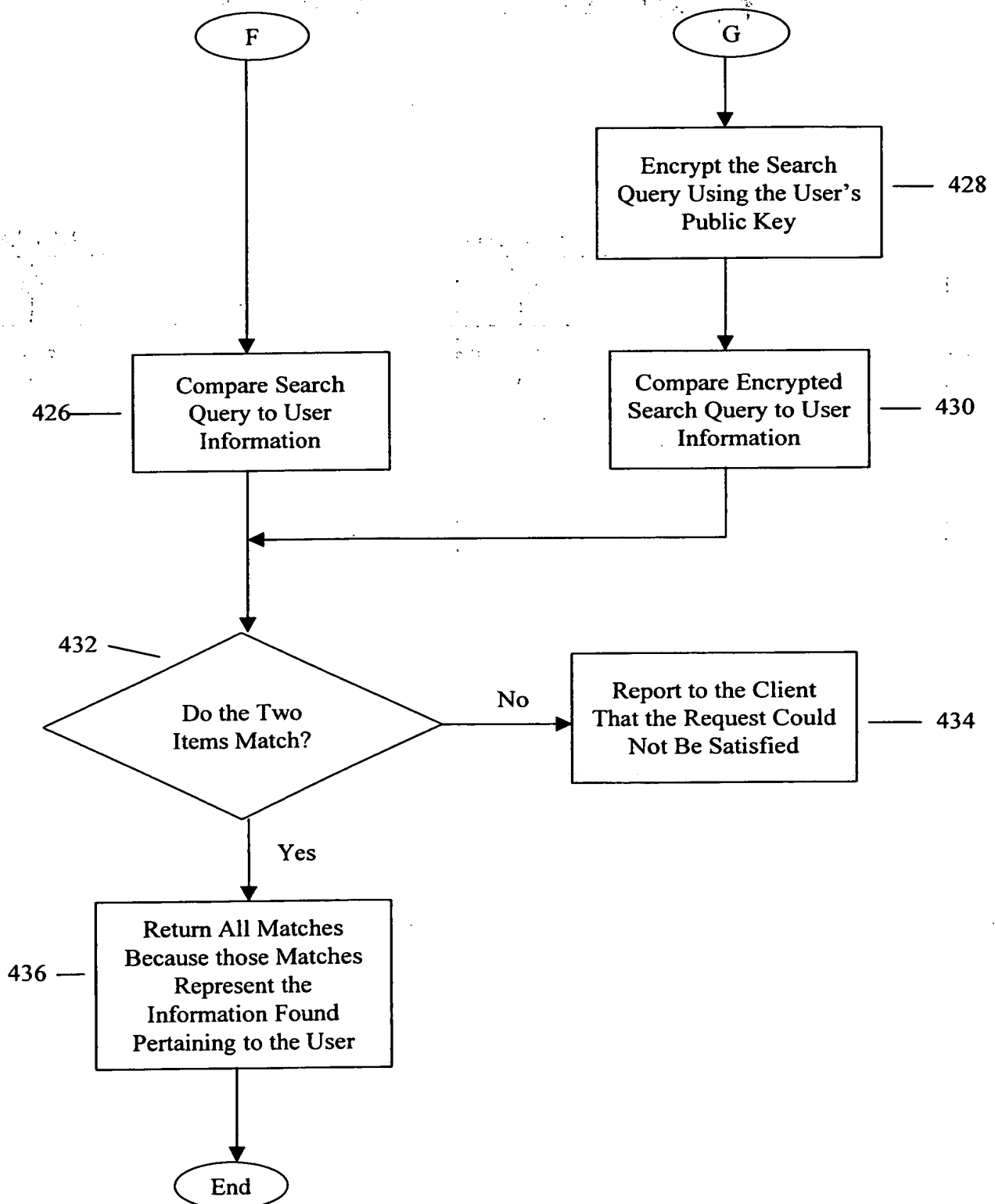


Fig. 5

Accessing Sensitive Data

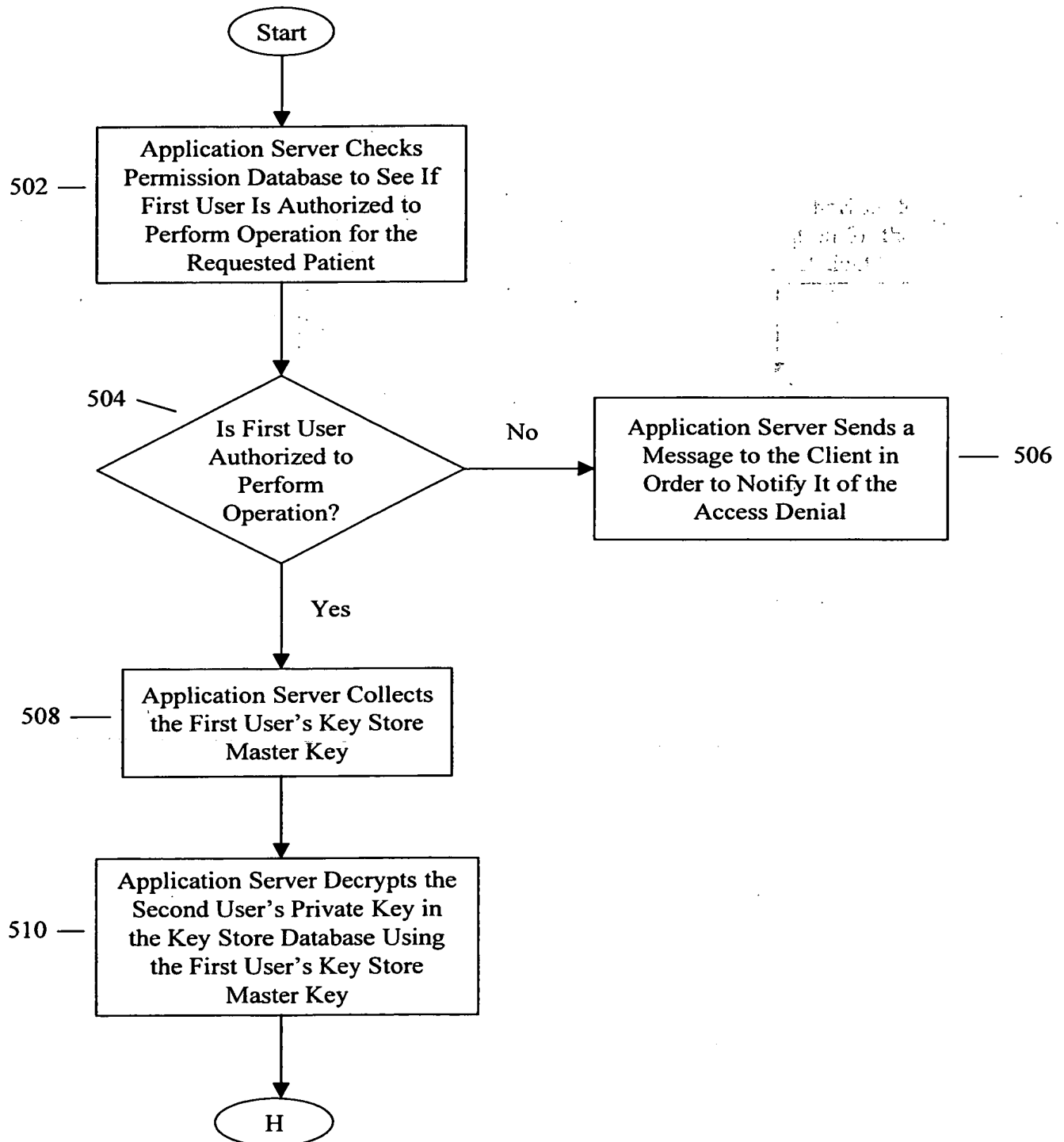


Fig. 5

Accessing Sensitive Data (Cont.)

